

Differences in Comprehension of Expository and Narrative Text on Digital Mediums

Nicole T. Martin & Jennifer J. Stiegler-Balfour, Ph.D.
University of New England, Biddeford, ME

Introduction

- With recent advancements in technology, reading on electronic devices, such as computers, e-readers, and phones, have become more popular. Many people enjoy reading novels on e-readers and this popularity is reflected in the high sales of e-books (Kerby & Trei, 2015). Although sales for e-books used for reading narratives are at an all-time high, sales for e-textbooks are falling short (Daniel & Woody, 2012).
- One reason for sale discrepancies may be due to differences in reading expository versus narrative texts. Research suggests these different texts have different goals and are processed differently. While narrative text processing focuses on following a sequence of events and decoding abilities, expository texts have many more demands. For example, prior knowledge must be integrated while also working through a more structurally complex and dense passage in expository text (Best, Floyd & McNamara, 2008; Wolfe & Woodwyk, 2010).
- Readers may interact with a text's content differently depending on what writing style is used to express text content. While content can be either informational or anecdotal, the writing style can also have the aim for the reader to learn something or to tell a story. While there are general assumptions that the same content delivered in a different way will not play an impact, some research indicates that it may impact comprehension due to the different goals associated with that style (Wolfe & Woodwyk, 2010; Bubeck, Bruce, Schmuckler, Moshier & Boss, 1990).
- Additionally, readers' comprehension of material may differ because of their different skill levels. Less-skilled readers may lack the metacognitive skills to monitor their comprehension and therefore, may not recognize the need to adapt to a digital reading medium (Schmidt & Ford, 2003).
- The device itself may also play a role in reader's performance, as research to date regarding digital formats vs. paper has had mixed results. While some research showed no significant comprehension differences (Daniel & Woody, 2012; Rockinson-Szapkiw et al., 2013), other studies have revealed that reading e-texts can lead to reduced recall abilities (Santana, Livingstone, & Cho, 2011).

Research Question

The goal of these studies were to examine whether people comprehend and learn information differently on an e-reader compared to print texts.

- Study 1** aimed to confirm that content plays a bigger role than writing style for reader's comprehension of a text.
- Study 2** aimed to investigate how reading expository or narrative content changed depending on the device type.

Methods [Study 1]

Participants consisted of 433 undergraduate students from the University of New England. They were given partial course credit for their participation in this study.

Participants were instructed to:

- Read a passage with either factual or anecdotal content written in either an expository or narrative style on a Kindle Fire.
- Answer multiple choice questions to assess their comprehension of the text.
- Take the Multi-Media Comprehension Battery (MMCB) to determine their reading comprehension skill level (Gernsbacher, 1997).
- Complete a short survey about their familiarity with the e-readers and demographic information (e.g., background on passages, ease of reading passage, etc.)

Materials [Study 1]

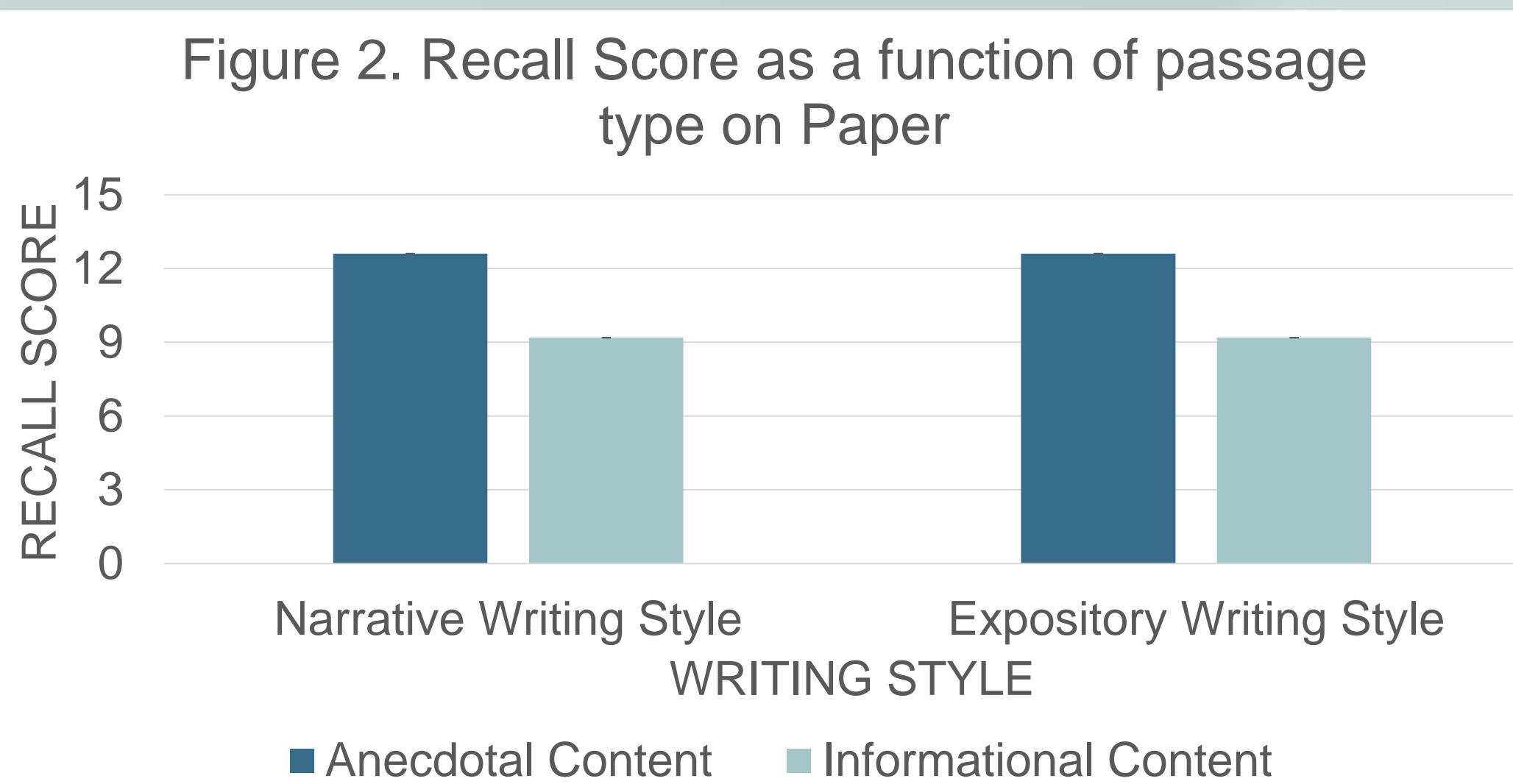
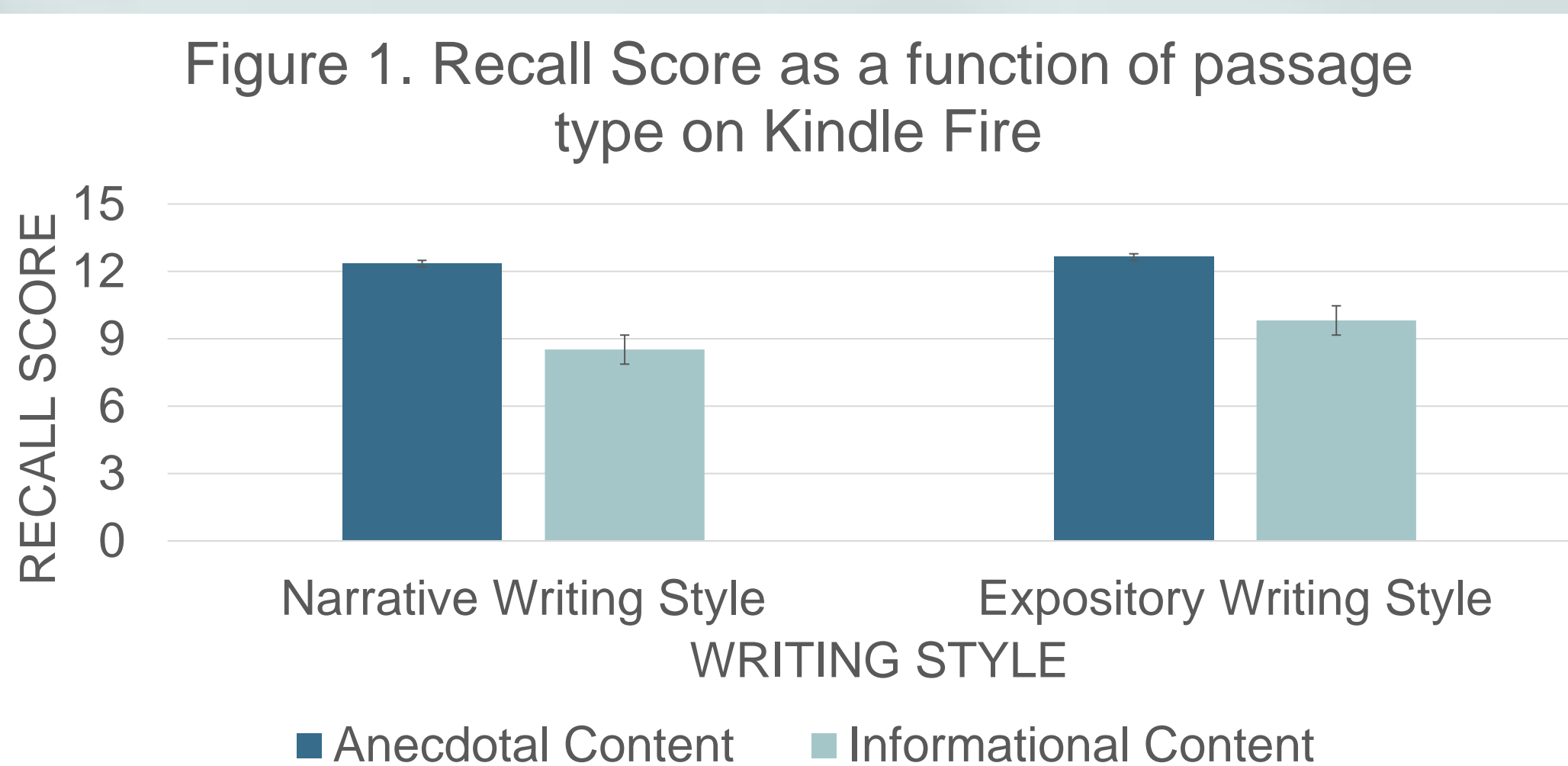
Informational Content/Narrative Writing Style:

- In some cases the other students may be older. It is important to remember there is no need to feel embarrassed. First, the students should put on brightly colored water wings to help them stay afloat.

Anecdotal Content/Narrative Writing Style:

- Although they were both older than me, they didn't seem to be embarrassed about not knowing how to swim. I began to feel more at ease. We got into the pool and the teacher had us put on brightly colored water wings to help us stay afloat.

Results [Study 1]



Methods [Study 2]

Participants consisted of 172 undergraduate students from the University of New England. They were given partial course credit for their participation in this study.

Participants were instructed to:

- Read a narrative and expository passage on an iPad, Kindle Paperwhite or paper.
- Answer multiple choice questions about the passage on a computer.
- Repeat steps one and two with the second passage.
- Take the MultiMedia Comprehension Battery (MMCB) to determine their reading comprehension skill level (Gernsbacher, 1997)

Materials [Study 2]

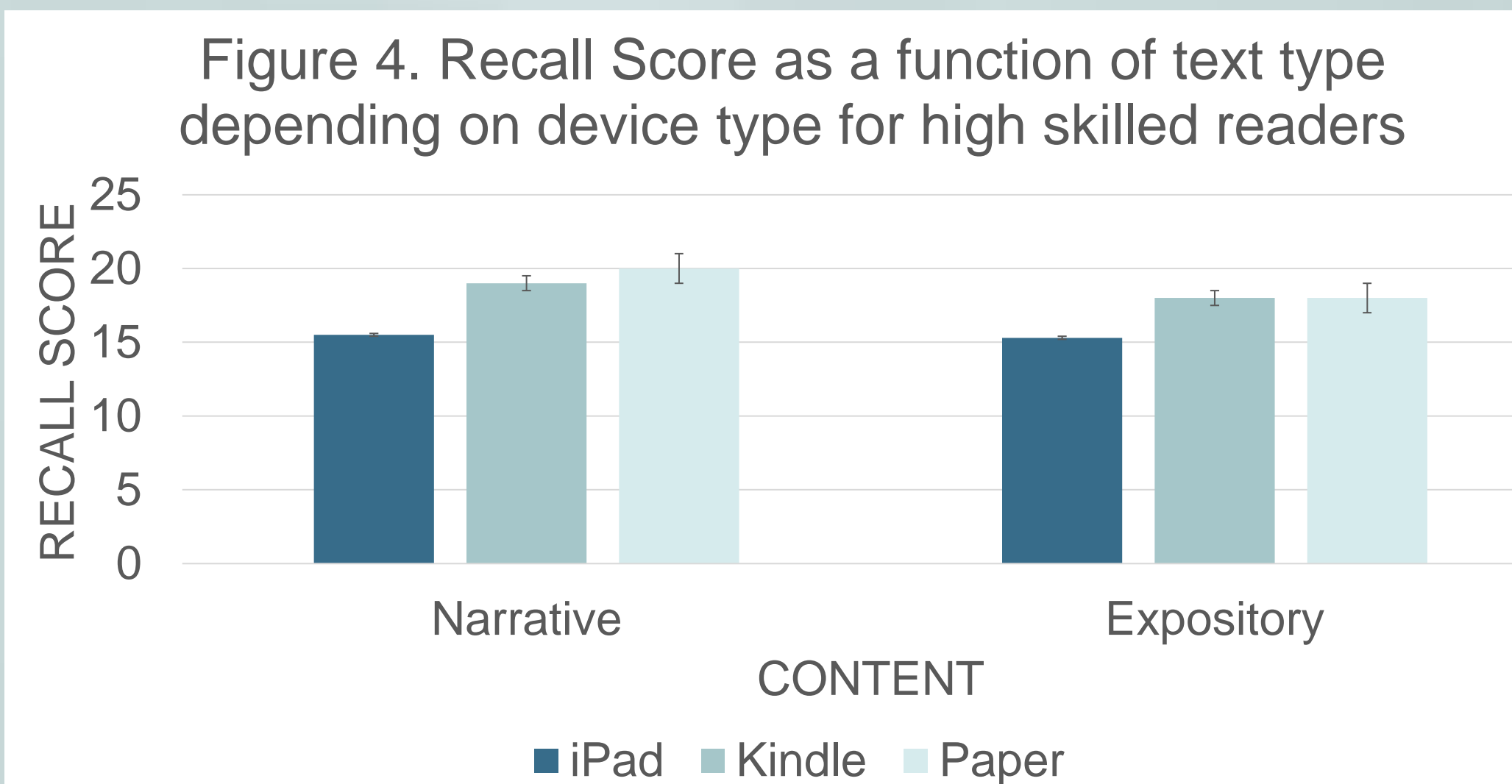
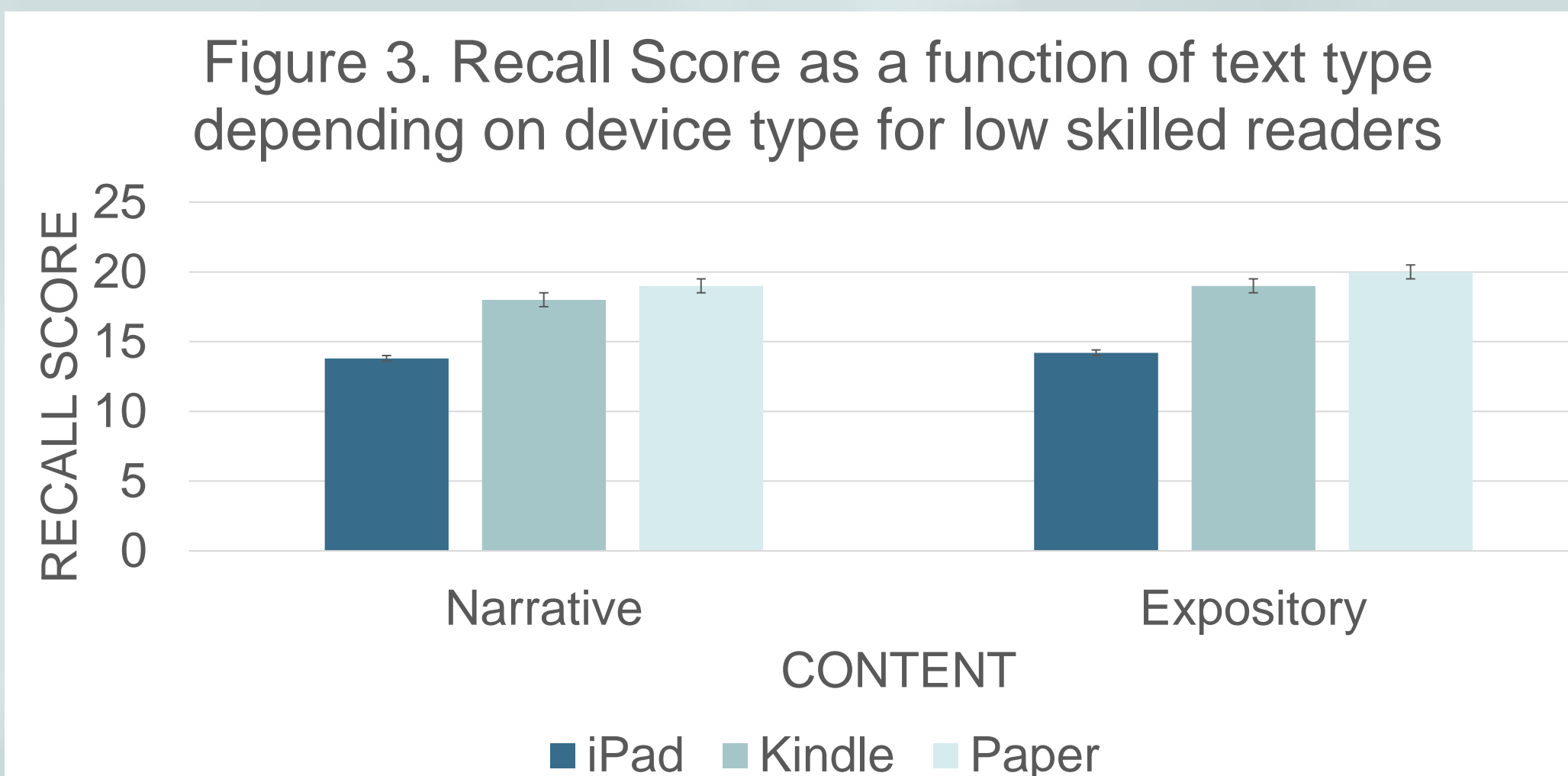
Expository Passage:

- When the Monarch caterpillar gets ready to pupate it will spin silk. Then it will attach itself and hang head-down in a "J" shape. The caterpillar will stay like this for around 24 hours.

Narrative Passage:

- Megan carried a short, knobby stick as she sung out at random at chickens she liked, working out the beat of the song on the fence around the pigpen and felt light and good in the warm sun.

Results [Study 2]



Discussion

- Study 1 demonstrated that text content (i.e., information vs anecdotal) determines the amount of information that the reader is able to retain while in comparison, writing style (i.e., narrative or expository) appears to be less important.
- Study 2 confirms previous research showing that high skilled comprehenders scored higher on the recall quiz compared to lower skilled comprehenders (Schmidt & Ford, 2003).
- Further, both high and less skilled readers demonstrated the same pattern of performance across device types. Readers using the Kindle paperwhite or paper had the same performance, yet iPad readers had lower performance compared to either paper or the Kindle paperwhite.
- Overall, these results suggest that utilizing digital devices designed for reading may be advantageous compared to a tablet not specifically made for reading.

References

- Best, R. M., Floyd, R. G., & McNamara, D. S. (2008). Differential competencies contributing to children's comprehension of narrative and expository texts. *Reading Psychology, 29*(2), 137-164. doi:10.1080/02702710801963951
- Bubeck, Bruce, Schmuckler, Mosier & Boss (1990)
- Daniel, D. B., & Woody, W. D. (2012). E-textbooks at what cost? Performance and use of electronic v. print texts. *Computers & Education, 62*, 18-23.
- Kerby, E., & Trei, K. (2015). Minding the gap: ebook package purchasing. *Collection Building, 34*(4), 113-118.
- Santana, A. D., Livingstone, R., & Cho, Y. (2011). Medium matters: Newsreader's recall and engagement with online print newspapers. Presented at the annual meeting for Association for education in Journalism and Mass Communication, August 10, 2011, St. Louis, Missouri.
- Schmidt, A. M., & Ford, J. K. (2003). Learning within a learner control training environment: The interactive effects of goal orientation and metacognitive instruction on learning outcomes. *Personnel Psychology, 56*, 405-429.
- Rockinson-Szapkiw, A. J., Courduff, J., Carter, K., & Bennett, D. (2013). Electronic versus traditional print text books: A comparison study on the influence of university students' learning. *Computers and Education, 63*, 259-266.
- Wolfe, M.B.W. and Woodwyk, J.M. (2010). Processing and memory of information presented in narrative or expository texts. *British Journal of Educational Psychology, 80*: 341-362. doi:10.1348/000709910X485700

Acknowledgements

These projects were supported by the University of New England's Summer Undergraduate Research Experience Grant provided by the UNE College of Arts and Sciences.

Thank you to Sarah Hendrix, Glen Rose, Mark Stubbs, Courtney Parent, Aubrey Sahouria, Genna Companatico, Grace Bernatchez, Bella Martin and Emily Newborough for their contributions to data collection along with Ellie Leighton for her great contributions to Experiment 1.

Contact

Jennifer Stiegler-Balfour, Ph. D.,
Associate Professor of Psychology
University of New England (Biddeford, ME)
Email: jstiegler@une.edu Lab
Website: <http://blog.une.edu/rcclab>